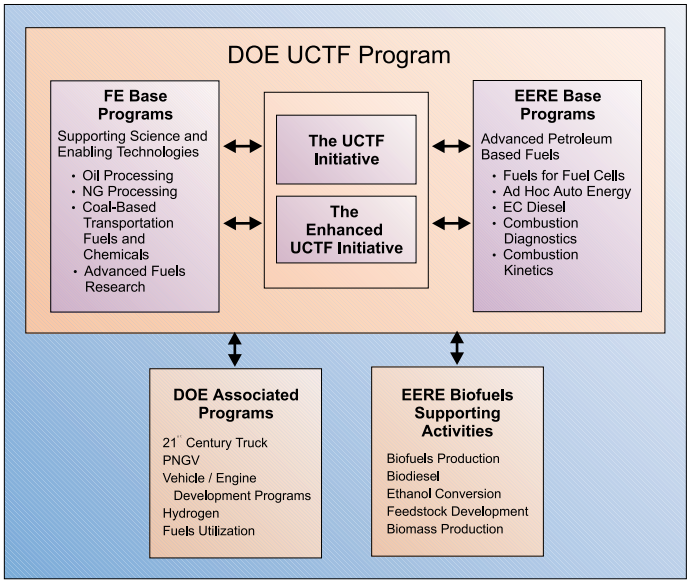
Program Integration

The UCTF Program brings together fossil fuel and biofuels production research as well as research on advanced engines and their emission control systems. The coordination of these activities will generate a synergistic effort that can advance the utilization of fuels from both fossil and renewable resources, and enable the use of very efficient and low-emission engine and emission control systems being developed in the PNGV and the 21st Century Truck Program. The result will be vehicle systems that are highly efficient and characterized by ultra-low emissions.

As previously stated, the Program will enable the development and deployment of PNGV and 21st Century Truck fuel-engine emissions control systems, and ensure that multiple feedstock options are available and producing next generation ultra-clean fuels. The Program will develop and deploy fuel production options for both petroleum- and non-petroleum-based fuels. Candidate fuels are to be provided in sufficient quantities to support larger scale engine and vehicle testing for a number of ultra-clean transportation fuel options. A technical verification effort also will be implemented to identify refinery modifications that can utilize existing resources to produce ultra-clean fuels for distribution through the existing fuel supply infrastructure. The activity also will identify and develop alternative transportation fuels for powering advanced engines (e.g., fuel cells, and the Homogeneous Charge Compression Ignition (HCCI) engine).

Integrating this effort of the UCTF Program with numerous supporting activities ongoing as part of the base R&D programs of the Office of Fossil Energy and the Office of Energy Efficiency and Renewable Energy is expected to be a significant factor in accomplishing the objectives of the Program. The relationship among these activities is presented in Figure 6.

Figure 6: DOE Clean Fuels Program



Program Management/Coordination

UCTF Program Management

The UCTF Program is jointly directed by the DOE Office of Energy Efficiency and Renewable Energy and the Office of Fossil Energy. This combined management provides the essential complementary strengths, expertise, and resources to make the Program successful. The Office of Fossil Energy contributes fossil fuel development and production technology needed to deliver a stable, clean, and affordable energy supply for transportation. The Office of Energy Efficiency and Renewable Energy delivers advanced technologies for clean and efficient vehicles, biofuels from domestic renewable feedstocks, and petroleum-based fuels testing. From these coordinated efforts will emerge the best "resource-to-road" system.

Co-management of the Program provides an integration and coordination of Office missions and resources to achieve the overall Program goals. Key industry and government organizations will collaborate to set priorities, guide the R&D tasks, and evaluate progress.

External Interfaces and Coordination

The UCTF Program is proactive in its efforts to coordinate with industry. Additionally, the Program coordinates with state agencies and other Federal organizations that can make important contributions to this Program.

Key trade groups in the energy industry include the American Petroleum Institute and the National Petrochemical and Refiners Association, which signed a compact with DOE for collaborative R&D. The natural gas industry is represented by such groups as the American Gas Association and the Gas Technology Institute. Key groups from the automotive/heavy-vehicle industry include the U.S. Council for Automotive Research, the Engine Manufacturers Association, and the Manufacturers of Emission Controls Association. Key agricultural groups include the National Corngrowers Association, the Corn Refiners Association, the Renewable Fuels Association, and the American Coalition for Ethanol.